

09/878,498

01SW102/ALBRP223US

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A graphical compare utility system for displaying control programs for industrial control modules, the system comprising:

a conversion system that receives a first and a second control program and converts the first and second control program into a first and second data set representing individual instruction of the first and second control program;

a viewing system that accepts the first and second data sets and provides a graphical view of the first and second control programs in a single optimal display set view based on the first and second binary data sets; and

a-difference module that determines differences between the first and the second control programs and provides a difference data structure representing the differences between the first and second control program; and

a comparison module that receives the difference data structure and the first and second control programs and generates a plurality of comparison scenarios to provide a plurality of comparison set views, the comparison module employing a decision model to determine[[s ]] the graphical the optimal display set view from the plurality of comparison set views by maximizing individual instruction matches between the first and second control programs.

2. (Previously Presented) The system of claim 1, the graphical utility system providing indicators for insertions, deletions, modifications and moves of individual instructions between the first and the second control program.

3. (Cancelled)

4. (Previously Presented) The system of claim 1, the individual instruction being rungs of first and second ladder logic programs.

09/878,498

01SW102/ALBRP223US

5. (Cancelled)

6. (Cancelled)

7. (Cancelled)

8. (Cancelled).

9. (Currently Amended) The system of claim 1 [[7]], the decision model transmitting the optimal display set view to a viewing component, the viewing component mapping the optimal display set view to graphic components associated with an operating system, such that the optimal display set view can be provided to a display system for providing a graphical representation of the first and second control program in a single view.

10. (Previously Presented) The system of claim 1, further comprising a recursion tool to provide wrapping of the graphical view of the first and second control program, such that instructions of the control programs are wrapped in corresponding panes of a single frame window to avoid clipping of the instructions.

11. (Previously Presented) The system of claim 10, the recursion tool being coupled to window resizing and zooming features of the graphical compare utility system, such that the graphical view of the first and second control programs is dynamically adjusted when at least one of window resizing and zooming is invoked.

12. (Original) The system of claim 10, the recursion tool having an enabled state and a disabled state.

13. (Currently Amended) The system of claim 10, the recursion tool provides a printout of the graphical view of all or a portion of the first and second control program.

09/878,498

01SW102/ALBRP223US

14. (Currently Amended) A graphical utility system for displaying two control programs for industrial control modules in an adjacent configuration, the system comprising:

a conversion system that receives a first and a second control program and converts the first and second control program into a first and second binary data set representing individual instruction of the first and second control program;

a difference module for determining differences between the first and the second binary data set and providing a difference data structure representing the differences between the first and second control programs;

a comparison module that receives the difference data structure and the first and second control programs and generates a plurality of comparison scenarios to provide a plurality of comparison set views;

a decision model that determines an optimal display set view from the plurality of comparison set views by maximizing individual instruction matches between the first and second control programs; and

a viewing system that accepts the optimal display set view and provide a graphical view of the first and second control programs in an adjacent configuration.

15. (Previously presented) The system of claim 14, the graphical utility system providing indicators for insertions, deletions, modifications and moves of individual instructions between the first and the second control program.

16. (Cancelled).

09/878,498

01SW102/ALBRP223US

17. (Previously presented) The system of claim 14, further comprising a recursion tool to provide wrapping of the graphical view of the first and second control programs, such that instructions of the control programs are wrapped in corresponding panes of a single frame window to avoid clipping of the instructions.

18. (Previously presented) The system of claim 17, the recursion tool being coupled to window resizing and zooming features of the graphical compare utility system, such that the graphical view of the first and second control programs are dynamically adjusted when at least one of window resizing and zooming is invoked.

19. (Original) The system of claim 17, the recursion tool having an enabled state and a disabled state.

20. (Previously presented) The system of claim 17, the recursion tool being operable to provide a printout of two side-by-side graphical views of all or a portion of the first and second control program.

21. (Currently Amended) A method for displaying graphical representations of two ladder logic control programs for industrial controllers, the method comprising:

retrieving a first ladder logic control program and a second ladder logic control program;

and

converting the first and second ladder logic control program into a first and second data set representing individual rungs of the first and second ladder logic control program;

determining differences between the first and the second ladder logic control programs and providing a difference data structure representing the differences between the first and second ladder logic control program;

generating a plurality of comparison scenarios based on the differences to provide a plurality of comparison set views and selecting an optimal display set view from the plurality of comparison set views by maximizing individual rung matches between the first and second ladder logic control programs; and

09/878,498

01SW102/ALBRP223US

providing the first and second data sets to a graphical viewing system, the graphical viewing system providing a graphical view of the first and the second ladder logic control programs in a single optimal display set view ~~by maximizing individual rung matches between the first and second data sets.~~

22. (Previously presented) The method of claim 21, further comprising providing indicators for insertions, deletions, modifications and moves of individual rungs between the first and the second ladder logic control program, the indicators being provided in the graphical view.

23. (Cancelled)

24. (Cancelled).

25. (Cancelled).

26. (Cancelled).

27. (Currently Amended) The method of claim 21 [[26]], further comprising transmitting the optimal display set view to a viewing component, the viewing component providing a graphical view of the first and second ladder logic control program in a single frame window.

28. (Previously presented) The method of claim 21, further comprising subjecting the graphical view to a recursive algorithm, such that rungs of the ladder logic control program are wrapped in corresponding window panes of a single frame window to avoid clipping of the rungs.

29. (Previously presented) The method of claim 28, further comprising dynamically adjusting the graphical view of the first and second ladder logic control programs in response to at least one of window resizing and window zooming.

09/878,498

01SW102/ALBRP223US

30. (Currently Amended) A system for displaying graphical representations of two control programs for industrial control modules in an adjacent configuration, the system comprising:

- ~~means for converting the first and second control program into a first and second data set representing individual instructions of the first and second control program;~~
- ~~means for determining the differences between the first and second control program based on the first and second data sets;~~
- ~~means for determining an optimal display set view based on the differences by maximizing individual instruction matches between the first and second control program; and~~
- ~~means for displaying the optimal display set view as a graphical view of the first and second control program, the means for displaying the optimal display set view providing indicators in the graphical view representing differences between the first and second control program;~~
- means for receiving a first and a second control program and converting the first and second control program into a first and second binary data set representing individual instruction of the first and second control program;
- means for determining differences between the first and the second binary data set and providing a difference data structure representing the differences between the first and second control programs;
- means for receiving the difference data structure and the first and second control programs and generating a plurality of comparison scenarios to provide a plurality of comparison set views;
- means for determining an optimal display set view from the plurality of comparison set views by maximizing individual instruction matches between the first and second control programs; and
- means for accepting the optimal display set view and providing a graphical view of the first and second control programs in an adjacent configuration.

31. (Previously Presented) The system of claim 30, further comprising means for wrapping instructions in the graphical view of the first and second control program.